

# PATENT ABSTRACTS OF JAPAN

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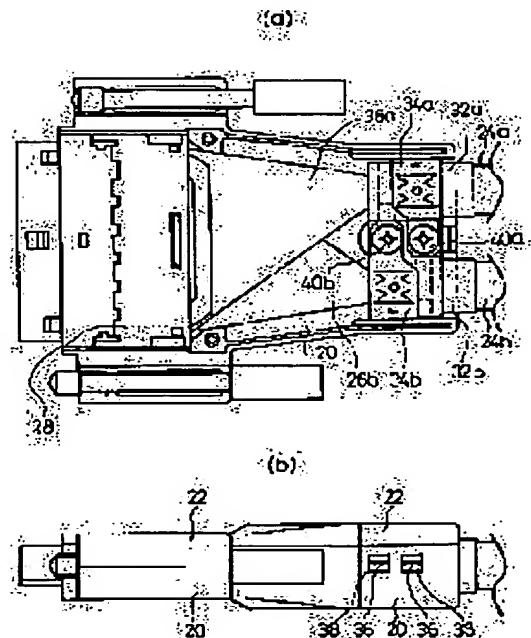
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**(54) SHIELD SHELL FOR CONNECTOR**

**(57)Abstract:**

**PURPOSE:** To realize miniaturization and high density and also improve workability, by making constitution, in which a protruded part is provided on one end of a cable clamp to be loosely engaged with the hole of a conductor shell for temporarily fixing a cable and then the other end of a cable clamp is screwed.

**CONSTITUTION:** Projections 36, provided on one end 34b of a cable clamp, are loosely engaged with the holes 38 provided on the side wall of a shell main body 20, and are pushedly pressed to the side wall of the main body 20 to be fixed by the elasticity of the folded part 32b of a cable 24b. The other end is screwed to main body 20 with a screw 40b to be fixed in this condition. A clamp 34a is similarly fixed. Consequently miniaturization and high density are realized with a space, for screwing in one end, eliminated, and also the positioning and screwing of a cable are facilitated to improve workability.



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**CLAIMS**

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**[Claim(s)]**

[Claim 1] In the shielding shell for connectors possessing the cable clamp for clamping and fixing between the walls of shell the conductor which has the configuration which covers the connection part of the cable connected to a connector -- shell and a cable -- this -- a conductor -- the through hole which may make \*\*\*\* for this cable clamp having a lobe at the end, and \*\*\*\*ing and carrying out the stop of this cable clamp to the other end penetrate -- having -- said conductor -- shell Shielding shell for connectors characterized by having \*\*\*\* for \*\*\*\*ing and carrying out the stop of this lobe of a cable clamp, the hole into which it may fit loosely, and the cable clamp into which this lobe fitted loosely, and the tapped hole which can be screwed.

[Claim 2] it clamps by said cable clamp-- having -- said conductor -- covering of two or more fixed to the wall of shell -- a conductor -- this -- covering of two or more -- covering of the part by which the cable which has a wrap jacket is this clamped in a conductor -- a conductor -- it should protect -- the inside of this jacket -- this -- covering of two or more -- a conductor -- a wrap -- the shielding shell for connectors according to claim 1 which possesses the ferrule of the cartridge for being inserted like further.

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[Translation done.]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

#### [0001]

[Industrial Application] This invention is EMI (electromagnetic interference). It is related with the shielding shell for connectors which has the metal shell which covers the whole cable splicing part for a cure, and a cable clamp for fixing a cable to this metal shell, and the shielding shell for connectors suitable for using for the electronic instrument high-performance[ a miniaturization and ]-ized especially.

#### [0002]

[Description of the Prior Art] As an example of a connector which has a shielding case for the cure against EMI, drawing 5 is the fragmentary sectional view of the connector with a shielding case indicated by drawing 2 of JP,1-139379,A. In this kind of connector, a cable 10 is pinched by the cable clamp 14 between the walls of a case 12, \*\*\*\*s the both ends of a cable clamp 14, and is fixed to a case 12 by \*\*\*\*ing and carrying out a stop by 18.

#### [0003]

[Problem(s) to be Solved by the Invention] A miniaturization and high performance-ization are progressing every year and, as for electronic instruments, such as a computer by which a connector is used, a miniaturization and densification have come to be required of the connector itself in connection with it. However, as mentioned above, since the conventional shielding case for connectors had taken the structure which \*\*\*\*s and carries out the stop of the cable clamp at the both ends, it was \*\*\*\*ed at least two places, and needed to carry out the stop, and its activity man day increased, and it had the problem of it having been required for the both sides of the cable with which the tooth space for a \*\*\*\* stop is clamped on the other hand, therefore becoming the failure of the miniaturization and densification of a connector.

[0004] Moreover, where a cable clamp is forced by hand, after positioning resisting the elasticity of a cable when \*\*\*\*ing and carrying out the stop of one side first with the structure which \*\*\*\*s and carries out the stop of the both sides of a cable clamp, and fixes a cable, the stop of one side of a cable clamp had to be \*\*\*\*ed and carried out, and there was also a problem of needing difficult handicraft. Moreover, in order to make 1 one signal line into the coaxial track which serves as a central conductor from a conductor and the dielectric between them outside with improvement in the speed of the signal which a cable transmits and to make the dielectric constant low as a dielectric, the cable with which the dielectric with high expansion ratio was used came to be used. Since the bubble of air was included at a high rate more than 90 volume %, when the strong compressive force which clamps a cable acted, the cross section of a cable deformed, the electrical characteristics, especially the impedance value of a cable changed, and this kind of dielectric also had the problem of causing a short circuit between wires, when the worst.

[0005] Therefore, the main purposes of this invention are to offer the shielding shell for connectors suitable for a miniaturization and densification. Other purposes of this invention are to offer the shielding shell for connectors by which the workability at the time of clamping a cable has been improved. The purpose of further others of this invention is to offer the shielding shell for connectors which the cross section of a cable does not deform according to the clamp force required since a cable is fixed.

#### [0006]

[Means for Solving the Problem] The shielding shell for connectors of this invention which attains the above-mentioned purpose In the shielding shell for connectors possessing the cable clamp for clamping and fixing between the walls of shell the conductor which has the configuration which covers the connection part of the cable connected to a connector -- shell and a cable -- this -- a conductor -- the through hole which may make \*\*\*\* for this cable clamp having a lobe at the end, and \*\*\*\*ing and carrying out the stop of this cable clamp to the other end penetrate -- having -- said conductor -- shell It is characterized by having \*\*\*\*

for \*\*\*\*ing and carrying out the stop of this lobe of a cable clamp, the hole into which it may fit loosely, and the cable clamp into which this lobe fitted loosely, and the tapped hole which can be screwed. Here, although not limited, especially the configuration of a lobe is decided from the ease of the workability of the clamp of a cable, the ease of manufacturing, etc., and even when it is cylindrical also at the shape of the shape of a hook, and a piece of a plate again, it is good. Furthermore, especially the number of a lobe is not limited, either and there should just be one or more.

[0007] this shielding case for connectors is further clamped by said cable clamp -- having -- said conductor -- covering of two or more fixed to the wall of shell -- a conductor -- this -- covering of two or more -- covering of the part by which the cable which has a wrap jacket is this clamped in a conductor -- a conductor -- it should protect -- the inside of this jacket -- this -- covering of two or more -- a conductor -- a wrap -- it is suitable to provide the ferrule of the cartridge for being inserted like. Moreover, the starting ferrule can also be made said cable clamp and one apparatus.

[0008]

[Function] the lobe of the end of a cable clamp -- a conductor -- the condition of having made it fitting loosely into the hole of shell -- a cable -- a conductor -- a lobe pushes against one side of the wall of a hole by the elasticity of a cable by pinching between the walls of shell -- having -- a cable clamp and a cable -- a conductor -- it is temporarily fixed to shell. Then, a clamp is completed by \*\*\*\*ing and carrying out the stop of the other end. According to this structure, it \*\*\*\*s about the end of a cable clamp, the tooth space for stops becomes unnecessary, and a miniaturization and densification are attained.

[0009] moreover -- like the above-mentioned -- the lobe of the end of a cable clamp -- a conductor -- since a lobe is forced on one side of the wall of a hole by the elasticity of a cable, it is fixed temporarily and positioning becomes easy by it by putting a cable in the condition of having made it fitting loosely into the hole of shell, workability is improved remarkably. furthermore, the part clamped by the cable clamp -- setting -- the jacket of a cable, and covering -- inserting a telescopic ferrule between conductors -- covering -- a conductor is protected from deformation. Moreover, if a cable clamp and the clamp of ferrule one apparatus are used, further, positioning will become easy and a shielding effect will be obtained certainly.

[0010]

[Example] Drawing 1 is drawing showing the connector cable assembly object setting up was finished using the shielding shell for connectors concerning one example of this invention, The (a) column is a top view, The (b) column It is the side elevation seen from the lower part of the (a) column. Illustrated shielding case for connectors, As shown in the (b) column, the shell body 20 and the shell cover 22 are included, and since the (a) column exposes a cable, a cable clamp, etc. inside shell, it is shown by it where a shell cover 22 is removed.

[0011] Two round-head cables 24a and 24b are held in the illustrated shielding case for connectors. The tip of the exposed parts 26a and 26b of the coaxial line in cable 24a and 24b is connected to the connector 28. The clinch parts 32a and 32b of shielding of Cables 24a and 24b are clamped by the internal surface of the shell body 20 by two cable clamps 34a and 34b, respectively.

[0012] Drawing 2 is drawing showing cable clamps 34a or 34b, The (a) column is a top view, The (b) column It is the side elevation seen from the lower part of the (a) column. The illustrated cable clamp has two projections 36 at the end, is \*\*\*\*ed to the other end and has the hole 38 for stops. Drawing 1 (b) The projection 36 prepared in the end of cable clamp 34b fits loosely into the hole 38 established in the side attachment wall of the shell body 20, is forced on the upper side attachment wall of a hole 38 by the elasticity of clinch partial 32b of cable 24b put between the shell bodies 20, and is fixed so that it may be shown. The other end is \*\*\*\*ed, and is \*\*\*\*ed on the shell body 20 by 40b, and a stop is carried out, and it is fixed. The same is said of cable clamp 34a. A through hole or a mere crevice is sufficient as the hole 38 of the shell body 20 like illustration. The projection 42 ( drawing 2 (b)) prepared inside the cable clamp is for strengthening the force which eats on the front face of the clamped cable and grasps a cable.

[0013] Drawing 3 is a sectional view of a part where Cables 24a or 24b are clamped. 26 expresses the bundle of many coaxial tracks used as the core wire of a cable. The perimeter is covered in order of the 1st shielding 44 by the metallic foil, the 2nd shielding 46 by the metal network, the jacket 48, and the plastic tube 50. In order to cut off partially and turn up only shielding 46 and to make good electrical installation with cable clamps 34a or 34b and the shell body 20 on it in the edge of covering cut off in order to expose the bundle 26 of a coaxial track, copper foil 52 is put and the edge is covered with a plastic tube 54. Furthermore, in order to protect the coaxial track 26 of the range clamped from deformation, the metal ferrule 56 is inserted between shielding 44 and shielding 46 from the edge of covering.

[0014] Drawing 4 is a partial cross-section notching Fig. showing a ferrule 56. The taper 58 is formed so

that easily [ insertion ] for the end of a ferrule 56. When clamped by the cable clamp by inserting a ferrule 56 between two shielding layers, the coaxial track 26 in it is protected from deformation.  
[0015]

[Effect of the Invention] While a miniaturization and densification of a connector become possible according to this invention as stated above, and the workability in setting up is improved, even if it is the case that the core wire with which it was covered in the cable is weak to compressive force, deformation by the clamp force is prevented.

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## \* NOTICES \*

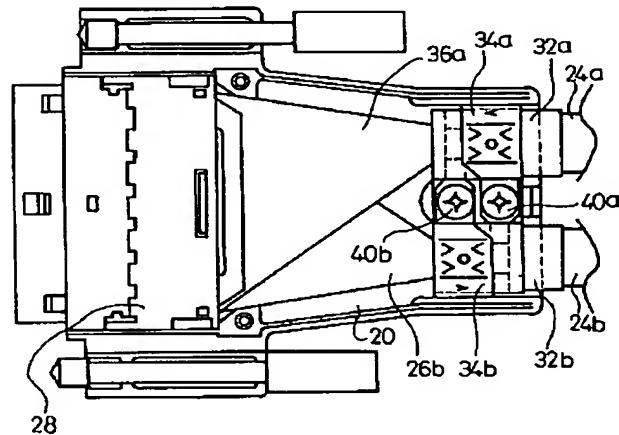
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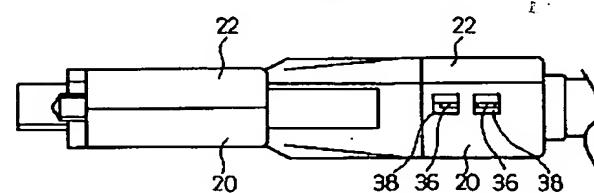
## DRAWINGS

## [Drawing 1]

実施例  
(a)



(b)

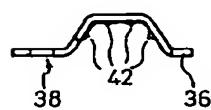


## [Drawing 2]

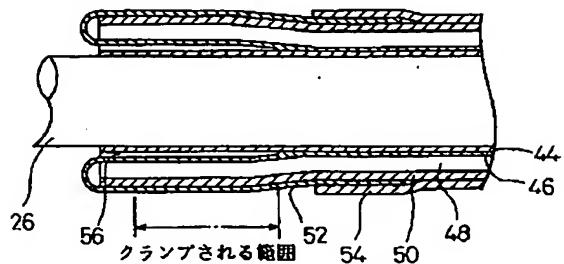
(a)



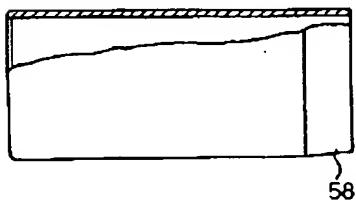
(b)



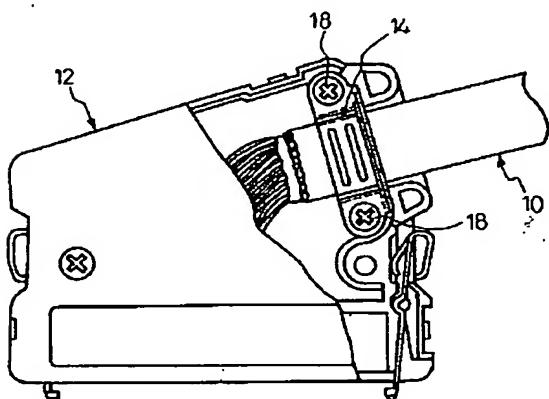
## [Drawing 3]



[Drawing 4]  
56



[Drawing 5]  
従来例



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